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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/815,828	03/23/2001	Oleg A. Yevin	ARBS 1007US2 SRM/dbb	6400

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EXAMINER

CIRIC, LJILJANA V

ART UNIT PAPER NUMBER

3753

DATE MAILED: 06/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/815,828

Applicant(s)

YEVIN ET AL.

Examiner

Ljiljana (Lil) V. Ciric *AVC*

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-65 is/are pending in the application.
- 4a) Of the above claim(s) 1-16, 24, 26, 41-50 and 60-64 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 17-23, 25, 27-40, 51-59 and 65 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4, 6, 7, 9, 11
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group II and the first species in the reply filed on July 17, 2003 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 1 through 16, 24, 26, 41 through 50, and 60 through 64 are hereby withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to non-elected inventions, there being no allowable generic or linking claim. Note that claims 26 and 64 depend from withdrawn claim 24 and are thus withdrawn as well. Election was made **without** traverse in the reply filed on July 17, 2003.

Priority

3. If applicant desires benefit of a previously filed application under 35 U.S.C. 120, specific reference to the earlier filed application must be made in the instant application. For benefit claims under 35 U.S.C. 120, 121 or 365(c), the reference must include the relationship (i.e., continuation, divisional, or *continuation-in-part*) of the applications. This should appear as the first sentence(s) of the specification following the title, preferably as a separate paragraph unless it appears in an application data sheet. The status of nonprovisional parent application(s) (whether patented or abandoned) should also be included. If a parent application has become a patent, the expression "now Patent No. ____" should follow the filing date of the parent application. If a parent application has become abandoned, the expression "now abandoned" should follow the filing date of the parent application.

If the application is a utility or plant application filed under 35 U.S.C. 111(a) on or after November 29, 2000, the specific reference must be submitted during the pendency of the application and within the later of four months from the actual filing date of the application or sixteen months from the filing date of the prior application. If the application is a utility or plant application which entered the

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national stage from an international application filed on or after November 29, 2000, after compliance with 35 U.S.C. 371, the specific reference must be submitted during the pendency of the application and within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371(b) or (f) or sixteen months from the filing date of the prior application. See 37 CFR 1.78(a)(2)(ii) and (a)(5)(ii). This time period is not extendable and a failure to submit the reference required by 35 U.S.C. 119(e) and/or 120, where applicable, within this time period is considered a waiver of any benefit of such prior application(s) under 35 U.S.C. 119(e), 120, 121 and 365(c). A benefit claim filed after the required time period may be accepted if it is accompanied by a grantable petition to accept an unintentionally delayed benefit claim under 35 U.S.C. 119(e), 120, 121 and 365(c). The petition must be accompanied by (1) the reference required by 35 U.S.C. 120 or 119(e) and 37 CFR 1.78(a)(2) or (a)(5) to the prior application (unless previously submitted), (2) a surcharge under 37 CFR 1.17(t), and (3) a statement that the entire delay between the date the claim was due under 37 CFR 1.78(a)(2) or (a)(5) and the date the claim was filed was unintentional. The Director may require additional information where there is a question whether the delay was unintentional. The petition should be addressed to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Drawings

4. The drawings are objected to because the line quality in Figures 6a, 6b, 7, 8a, 8b, 9a, and 9b is generally poor. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional

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replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The abstract of the disclosure is objected to because the abstract does not avoid using phrases which can be implied (i.e., "This invention comprises") and because it does not sufficiently summarize the salient elements of the elected invention (i.e., the window material). Correction is required. See MPEP § 608.01(b).

6. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

7. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length

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since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 17 through 23, 25, 27 through 40, 51 through 59, and 65 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Given applicant's broad claims, given the complex nature of the invention-- particularly relating to particular compositions of the inventive particle structures and methods of making the same, given the fact that the use of fractal structures in window materials is an emerging (and for the most, part experimental) technology, given the minimal amount of direction provided by the applicants on how to make and use the invention, given the lack of specific detailed working examples, and given the large amount of experimentation that is required to make and use the invention absent any additional direction, it is respectfully noted that applicants have failed to convey to one skilled in the art that the inventors, at the time the application was filed, had possession of the claimed invention.

3. Claims 17 through 23, 25, 27 through 40, 51 through 59, and 65 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicants

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very broadly claim a window material including a particle structure thereon, but the originally filed disclosure fails to provide a full and enabling disclosure on how to make and use the invention. In particular, while the use of fractal structures and related particle structures in nanotechnology--and more particularly in window material applications--is an emerging and largely experimental technology without a significant depth and breadth of specific common knowledge and prior art disclosures relating thereto, applicant has failed to fully disclose and describe in detail how to make and use the invention. For example, particular suitable compositions of fractal particle structure and formulas therefor are not disclosed, and neither are any working examples disclosed in detail. Furthermore, while applicants recites having window materials including particle structures with preselected electromagnetic absorption bands, little or no guidance is given as to how to select particle structures with optimal bandwidths. Specific examples, equivalents, and compositions of adhesives, dyes, polarizing materials, and release liners are also generally not described and disclosed in any detail by applicant as part of the originally filed disclosure. Thus, with just the broad-brush information provided by applicants in the originally filed disclosure, one skilled in the art would require to pursue undue experimentation in order to even marginally practice the invention. Thus, the invention is not properly enabled.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 17 through 23, 25, 27 through 40, 51 through 59, and 65 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claim 17 as written, it is not clear which structures are encompassed by (and which are excluded by) the limitations "a plurality of particle structures having preselected electromagnetic absorption bands", thus rendering indefinite the metes and bounds of protection sought by claim 17 and all claims depending therefrom. Note that the originally filed disclosure (including the claims and the

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specification) fails to clearly define which electromagnetic absorption band ranges are to be included among the preselected ones, for example.

Furthermore, it is not clear to which previously cited element(s) each of the terms “therein” [claim 17, line 3] and “thereon” [claim 28, line 3; claim 29, line 3; claim 58, line 3] refers. Recommend replacing each of the terms “therein” and “thereon” with a direct recitation of the element(s) referred to thereby for improved clarity.

There is insufficient antecedent basis in the claims for the following limitations, for example: “said particles” [claim 21, line 1; claim 22, line 1; claim 27, line 1]—note that there would be sufficient antecedent basis in the claims for the limitation “said particle structures” or “said plurality of particle structures”; and, “said window” [claim 58, line 4; claim 59, line 4].

With regard to claim 51 as written, the limitations “means for selectively absorbing electromagnetic radiation associated with said piece of transparent material” are not clear as written. First of all, it is not clear which structural equivalents are encompassed within the means-plus-function limitation “means for selectively absorbing electromagnetic radiation”. Second of all, it is not clear whether the selective absorption means or the electromagnetic radiation is associated with the piece of transparent material. Third of all, it is not clear which particular structural relationships are encompassed by the term “associated with” in line 3 of the claim.

With regard to claim 52 as written, it is not clear which particular structural relationships are encompassed by the term “associated with” in line 3 of the claim.

With regard to each of claims 58 and 59 as written, it is not clear which equivalents are encompassed by the limitations “means for adhering said sheet to said window”, thus rendering indefinite the metes and bounds of protection sought by the claims.

With regard to claim 59 as written, the limitations “means for selectively absorbing electromagnetic radiation associated with said polymer sheet” are not clear as written, thus rendering

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indefinite the metes and bounds of protection sought by the claim. First of all, it is not clear which structural equivalents are encompassed within the means-plus-function limitation "means for selectively absorbing electromagnetic radiation". Second of all, it is not clear whether the selective absorption means or the electromagnetic radiation is associated with the polymer sheet. Third of all, it is not clear which particular structural relationships are encompassed by the term "associated with" in line 3 of the claim.

The above is an indicative, but not necessarily an exhaustive, list of 35 U.S.C. 112, second paragraph, problems. Applicant is therefore advised to carefully review all of the claims for additional problems. Correction is required of all of the 35 U.S.C. 112, second paragraph problems, whether or not these were particularly pointed out above.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed

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before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

11. As best can be understood in view of the indefiniteness of the claims, claims 17 through 23, 25, 27 through 40, 51 through 59, and 65 are rejected under 35 U.S.C. 102(e) as being anticipated by Natan et al. (US 6,242,264 B1).

Natan et al. discloses a material including a glazing or coating having a particular selected electromagnetic spectrum transparency or absorption range essentially as claimed, including, for example, a transparent material or glass slide coated with a gold or silver fractal aggregates. See Figure 37, for example.

The reference thus reads on the claims.

12. Alternately and as best can be understood in view of the indefiniteness of the claims, claims 17, 20, 21, 23, 25, 27, 38 through 40, 51, 52, 54, 55, 58, and 59 are rejected under 35 U.S.C. 102(b) as being anticipated by Schacklette et al. (previously made of record by applicant).

Schacklette et al. discloses a window material or covering including a glazing or coating having a particular selected electromagnetic spectrum transparency or absorption range essentially as claimed, including a transparent material or pane 2 and a plastic (i.e., polymer) sheet 3 having a conducting polymer layer 1 attached to the pane using various adhesives [see column 5, lines 33-64]. A dye or tint [see column 7, lines 15-18] may be included in the window material or covering. Dopants [i.e., see column 8, lines 48-63] are readable on the particle structures as recited in the claims.

The reference thus reads on the claims.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wolf et al., Sauer, Jones, Arnold et al., Ando et al. (both references), Graf et al., Harary et al., and Aldissi each discloses either a window material or a transparent material including an electromagnetic

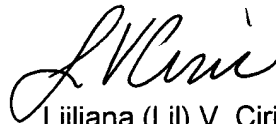
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absorbing/transmitting layer or treatment associated therewith. Note that while Veerasamy and Wen et al. are not prior art per se, they are nevertheless of particular interest because each discloses a composite material including a fractal aggregate layer.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ljiljana (Lil) V. Ciric whose telephone number is 571-272-4909. The examiner can normally be reached on Mondays through Fridays from 10:00 a.m. to 6:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Mancene, can be reached at 571-272-4930.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Ljiljana (Lil) V. Ciric
Primary Examiner
Art Unit 3753